CLAIMS

What is claimed is:

      1.      A method of collecting and using data within a process plant, comprising:

      collecting data from a plurality of data sources within the process plant, wherein the plurality of data sources includes a service application that is implemented by a service provider to the process plant;

      storing the collected data in a database;

      making the stored data accessible to one or more process control applications or maintenance applications within the process plant; and

      making the stored data accessible to the service application.

      2.      The method of claim 1, wherein the step of collecting data includes collecting data from a process control data source.

      3.      The method of claim 1, wherein the step of collecting data includes collecting data from a field device maintenance source.

      4.      The method of claim 1, wherein the step of collecting data includes collecting data from a process model.

      5.      The method of claim 1, wherein the step of collecting data includes collecting data from a business application.

      6.      The method of claim 1, wherein the step of collecting data includes collecting data from a service application that is an optimization application.

      7.      The method of claim 1, wherein the step of collecting data includes collecting data from a service application that is a corrosion monitoring application.

8.      The method of claim 1, wherein the step of collecting data includes collecting data from a service application that is a process performance monitoring application.

9.      The method of claim 1, wherein the step of collecting data includes collecting data from a service application that is a condition monitoring application.

10.      The method of claim 1, wherein the step of collecting data includes collecting data from a service application that is a reliability monitoring application.

11.      The method of claim 1, wherein the step of collecting data includes collecting data from a service application that is an electrical equipment monitoring application.

12.      The method of claim 1, wherein the step of collecting data includes collecting data from a service application that is device performance monitoring application.

13.      The method of claim 1, wherein the step of collecting data includes collecting data from a data source that is intermittently communicatively connected to the process plant.

14.      The method of claim 13, wherein the service application data source is intermittently communicatively connected to the process plant.

15.      The method of claim 1, wherein the step of storing includes storing the collected data in a single database.

16.    A method of performing operations for a process plant having a controller, a plurality of devices and a first computer that implements a first application that is a process control application or a maintenance application used by plant personnel, the method comprising:

5          collecting first data from the first application as used in the process plant;

           storing the first data in a memory;

           collecting second data from a second application implemented by a service provider associated with the process plant;

           providing the second data to the memory;

10         storing the second data in the memory; and

           making the second data available from the memory to the first application.

17.    The method of claim 16, further including the step of making the first data available from the memory to the second application.

18.    The method of claim 17, wherein the step of collecting first data
15   includes collecting data from a process controller data source.

19.    The method of claim 17, wherein the step of collecting first data includes collecting data from a process model data source.

20.    The method of claim 17, wherein the step of collecting first data includes collecting data from a business application.

20         21.    The method of claim 17, wherein the step of collecting second data includes collecting data from a second application that is an optimization application.

22.    The method of claim 17, wherein the step of collecting second data includes  collecting data from a second application that is a corrosion monitoring application.

23.     The method of claim 17, wherein the step of collecting second data includes collecting data from a second application that is a performance monitoring application.

24.     The method of claim 17, wherein the step of collecting second data
5    includes collecting data from a second application that is device performance monitoring application located within a device.

25.     The method of claim 17, wherein the step of collecting second data includes collecting data from a second application that is intermittently communicatively connected to the memory.

10.     26.     The method of claim 17, wherein the steps of storing the first and the second data in the memory includes storing the first and second data in a common memory at a single location.

27.    A data communication system within a process plant, comprising:

a first communication network associated with the process plant that uses a first communication protocol;

a first application adapted to communicate via the first communication network;

a second communication network associated with the process plant that uses a second communication protocol;

a second application adapted to communicate via the second communication network;

a database communicatively coupled to the first communication network and to the second communication network, said database adapted to receive first data from the first application and second data from the second application, to store the first data and the second data and to provide the first data to the second application via the second communication network and to provide the second data to the first application via the first communication network.

28.    The data communication system of claim 27, wherein the first application or the second application is adapted to be intermittently connected to the first or the second communication network.

29.    The data communication system of claim 27, wherein the first application is a process control application and the second application is a process performance application.

30.    The data communication system of claim 27, wherein the first application is a device maintenance application and the second application is an optimization application.

31.     The data communication system of claim 27, wherein the first application is a process control application and the second application is an optimization application.

32.     The data communication system of claim 27, wherein the first application is a process control application and the second application is a business application.

33.     The data communication system of claim 27, wherein the first application is a process performance monitoring application and the second application is a device maintenance application.

34.     The data communication system of claim 27, wherein the first application is a process control application and the second application is a power equipment monitoring application.

35.     The data communication system of claim 27, wherein the first application is a process control application and the second application is a rotational equipment analysis application.

36.     The data communication system of claim 27, wherein the first application is a process control application and the second application is a device diagnostic application.

37.    A data communication system within a process plant, comprising:

a database adapted to store a plurality of different types of data; and

a plurality of applications communicatively coupled to the database via different communication networks, the plurality of applications including two or more

5    of a process control application, a process performance monitoring application, a process device monitoring application and a business application;

wherein each of the plurality of applications are adapted to send data to the database to be stored and at least one of the plurality of applications is adapted to access data from the database that was sent to the database via another one of the

10    applications.

38.    The data communication system of claim 37, wherein two or more of the plurality of applications are adapted to access data from the database sent to the database via different ones of the applications.

39.    The data communication system of claim 37, further including the

15    plurality of communication networks coupled to the database and wherein the each of the plurality of applications communicates with the database via a different one of the plurality of communication networks.

40.    The data communication system of claim 37, wherein one of the plurality of applications is an optimization application.

20    41.    The data communication system of claim 37, wherein one of the plurality of applications is a process performance monitoring application.

42.    The data communication system of claim 37, wherein one of the plurality of applications is a device performance monitoring application.

43.    The data communication system of claim 37, wherein one of the plurality of applications is a power equipment monitoring application.

44.    The data communication system of claim 37, wherein one of the plurality of applications is a rotational equipment analysis application.

5      45.    The data communication system of claim 37, wherein one of the plurality of applications is a corrosion monitoring application.

46.    The data communication system of claim 37, wherein one of the plurality of applications is a reliability monitoring application.

47.    The data communication system of claim 37, wherein one of the
10    plurality of applications is intermittently communicatively connected to database.